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## ABSTRACT

A method to overcome a disadvantage that the signal charges decrease depending upon the storage time in a photo-electric conversion unit of a solid-state image pickup device. At the moment  $t_2$  when a prescribed exposure time ( $t_1-t_2$ ) passes, the incident light is cut off by a cut off means such as a mechanical shutter of an interlace solid-state image pickup device. Then, at the time  $t_3$ , a voltage  $V_{Bsub}$  is applied to N<sup>-</sup> semiconductor substrate 107 to raise up the potential barrier  $\Delta \phi$  of the vertical OFD for the signal charges, whereby the leakage of the signal charges due to the self-induced drift, or the thermal diffusion is suppressed. Then, signal charges are read out from the odd lines at the time  $t_4$ , and signal charges are read out from the even lines at the time  $t_5$ .

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